



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/982,566	10/17/2001	Francis Lupien	27950-00470USPT	7868
27902	7590	01/24/2006	EXAMINER	
ERICSSON RESEARCH CANADA 8400 DECARIE BLVD. MONTREAL, QC H4P 2N2 CANADA			HAILE, FEBEN	
			ART UNIT	PAPER NUMBER
			2663	

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/982,566	LUPIEN ET AL.	
	Examiner	Art Unit	
	Feben M. Haile	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-82 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-10, 13, 14, 16, 17, 20-31, 33-36, 39, 41-60, 62-75 and 77-82 is/are rejected.
- 7) ☒ Claim(s) 5, 11, 12, 15, 18, 19, 32, 37, 38, 40, 61 and 76 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>0310512002</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim 49 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The language "...a second R-P session connected to a null-RLP over the synchronous wireless link" renders the claim vague and unclear. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 6, 10, 16-17, 20, 22-24, 26, 28-30, 33, 35, 42, 43-47, 50-60, 63, 65, 68-69, 73, 75, 78-79, and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang (US 2004/0095939), hereinafter referred to as Yang.

Regarding claims 1, 28, and 68, Yang discloses sending a headerless data packet on the synchronous wireless link (**figure 3 unit 60 and page 2 paragraph 0038; a mobile station transmits voice traffic with compressed or removed header information**), a sequential timer-based value being associated with the headerless data packet (**page 1-2 paragraph 0026; packets with removed headers are decompressed to obtain a timestamp value**); receiving the headerless data packet

Art Unit: 2663

from the synchronous wireless link (**figure 3 unit 85 and page 2 paragraph 0044; an IP host receives traffic from the mobile station**); decompressing, based at least in part on the sequential timer-based value associated with the received headerless data packet, the header of the received headerless data packet (**page 5 and paragraph 0107-0110; in a zero header compression algorithm, a decompression process uses a clock to recover time related fields**); repeating at least once the steps of sending the headerless data packet, receiving, and decompressing (**it is obvious to one of ordinary skill in the art that the steps above could be repeated**); and sending a data packet having a header on the synchronous wireless link (**figure 3 page 2 paragraph 0040; although both the voice and call signaling data are provided to a compressor, the compressor does not compress the call signaling data**).

Regarding claims 2 and 29, Yang discloses comprising assessing radio-bearer limitations of the synchronous wireless link (**page 1 paragraph 0018; radio bearer capacity is designed for voice services**).

Regarding claims 3, 30, and 69, Yang discloses wherein the step of assessing further comprises determining whether a size of the payload will permit a data packet having a header to be sent on the synchronous wireless link (**page 1 paragraph 0018; a packet data unit is designed to match a voice payload so that voice frames with compressed headers may be transmitted**).

Regarding claims 6 and 33, Yang discloses wherein the step of assessing is performed on a data-packet-by-data-packet basis (**it is obvious to one of ordinary skill in the art that assessing could be performed on a packet by packet basis**).

Regarding claims 10, 35, and 73, Yang discloses wherein the method operates according to at least one of GSM/GPRS, WCDMA, cdma2000, and TDMA (IS-136) (page 2 paragraph 0046; voice service is provided by a wireless communications system such as GSM).

Regarding claims 16, 24, 46, and 57, Yang discloses wherein the step of decompressing comprises timer-based decompression of at least one dynamic part of the header of the received headerless data packet (page 5 paragraphs 0107-0110; in a zero header compression algorithm, a decompression process uses a clock to recover time related fields).

Regarding claims 17, 22, 47, 56, and 79, Yang discloses wherein the at least one dynamic part comprises at least one of an RTP Sequence Number, an RTP Timestamp, and an IP-Identifier (page 5 paragraph 0108; a time stamp value is translated to the format as used in RTP).

Regarding claims 20, 63, and 75, Yang discloses wherein the step of sending the data packet having the header is performed in response to feedback indicating that the sequential timer-based value associated with the received headerless data packet is not the sequential timer-based value expected (page 1 paragraph 0025; a decompressed header is provided in accordance with a timestamp).

Regarding claims 23, 58, and 78, Yang discloses further comprising removing a header from a data packet comprising a payload and the header, thereby creating a headerless data packet (figure 3 unit 60 and page 2 paragraph 0038; a mobile station transmits voice traffic with compressed or removed header information).

Regarding claim 26, 65, 81, Yang discloses wherein the header is sent as signaling traffic (**figure 3 and page 2 paragraph 0040; although both the voice and call signaling data are provided to a compressor, the compressor does not compress the call signaling data**).

Regarding claims 42, 44, 54, 55, and 59, Yang discloses wherein the node comprises a base station (**figure 3 unit 80**).

Regarding claims 43, 45, 50, 51, and 60, Yang discloses wherein the node comprises a mobile station (**figure 3 unit 60**).

Regarding claims 52 and 53, Yang discloses wherein the node comprises a packet data service node (PDSN) adapted to operate according to cdma2000 (**figure 3 unit 85**).

3. Claims 4, 13, 25, 27, 31, 39, 48, 66, 70, and 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang (US 2004/0095939), hereinafter referred to as Yang in view of Hiller et al. "Good Enough Header Compression", hereinafter referred to as Hiller.

Regarding claims 4, 31, and 70, Yang discloses the limitations of the base claims.

Hiller discloses wherein the step of assessing further comprises determining a maximally sized header that can be sent on the synchronous wireless link (**page 3 lines 40-42; a number of bytes in a frame is varied based on negotiations between a user and a radio network**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Yang by incorporating the teachings of Hiller. The motivation for such a modification being an improved header compression scheme that performs well over links with high error rates and long round-trip times.

Regarding claims 13 and 39, Yang discloses the limitations of the base claims.

Hiller discloses wherein the step of sending the data packet having the header is performed periodically (**page 2 lines 17-20; vocoded or other multimedia payloads are delivered with a fixed and predictable delay**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Yang by incorporating the teachings of Hiller. The motivation for such a modification being an improved header compression scheme that performs well over links with high error rates and long round-trip times.

Regarding claim 25, Yang discloses the limitations of the base claims.

Hiller discloses wherein the header is sent as primary traffic (**page 5 lines 57-64; separate connections for voice and other data have different priorities**).

Regarding claim 27, 66, 82, Yang discloses the limitations of the base claims.

Hiller discloses wherein the header is sent as secondary traffic (**page 5 lines 57-64; separate connections for voice and other data have different priorities**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Yang by incorporating the teachings of Hiller. The motivation for such a modification being an improved header compression scheme that performs well over links with high error rates and long round-trip times.

Regarding claim 48, Yang discloses the limitations of the base claims.

Hiller discloses wherein a connection between the first node and the second node is a PPP-free connection (**page 4 lines 37-40; compressed voice with no headers, i.e. no PPP, is sent over the air**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Yang by incorporating the teachings of Hiller. The motivation for such a modification being an improved header compression scheme that performs well over links with high error rates and long round-trip times.

4. Claims 7-9, 21, 34, 36, 41, 62, 67, 74, and 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang (US 2004/0095939), hereinafter referred to as Yang in view of Le et al. (US 6,882,637), hereinafter referred to as Le.

Regarding claims 7, 34, and 74, Yang discloses the limitations of the base claims.

Le discloses wherein the step of sending the data packet having the header is performed due to a talk spurt (**column 2 lines 51-55; transmission of a packet that contains minimal header information is triggered by the occurrence of a talk spurt**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Yang by incorporating the teachings of Le. The motivation for such a modification being an improved method for synchronizing the

transmission of compressed headers in data packets of a wireless application between a transmitter and a receiver.

Regarding claims 8-9, 21, 36, 41, 62, 67, and 77, Yang discloses the limitations of the base claims.

Le discloses wherein the data packet having the header comprises a compressed header (**column 2 lines 51-55; header compression is applied to the packet that contains minimal header information**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Yang by incorporating the teachings of Le. The motivation for such a modification being an improved method for synchronizing the transmission of compressed headers in data packets of a wireless application between a transmitter and a receiver.

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yang (US 2004/0095939), hereinafter referred to as Yang in view of Hiller et al. "Good Enough Header Compression", hereinafter referred to as Hiller in view of Le et al. (US 6,882,637), hereinafter referred to as Le.

Regarding claim 14, Yang as modified by Hiller discloses the limitations of the base claims.

Le discloses wherein the data packet having the header comprises a compressed header (**column 2 lines 51-55; header compression is applied to the packet that contains minimal header information**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Yang and Hiller by incorporating the teachings of Le. The motivation for such a modification being an improved method for synchronizing the transmission of compressed headers in data packets of a wireless application between a transmitter and a receiver.

Allowable Subject Matter

6. Claims 5, 11-12, 15, 18-19, 32, 37-38, 40, 61, and 76 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

a) Davila et al. (US 2005/0018666), Network Header Compression Arrangement

b) Liao et al. (US 20050286523), Robust, Inferentially Synchronized Transmission of Compressed Transport-Layer-Protocol Headers

c) Garudadri et al. (US 20050259690), Header Compression of Multimedia Data Transmitted Over a Wireless Communication System

d) Melpignano (US 2004/0264433), Wireless Communication Arrangements with Header Compression

Art Unit: 2663

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Feben M. Haile whose telephone number is (571) 272-3072. The examiner can normally be reached on 6:00am - 3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ft 01/20/2006



RICKY Q. NGO
SUPERVISORY PATENT EXAMINER